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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jin Hong Kim

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EXAMINER

RAEVIS, ROBERT R

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/801,041	Applicant(s) KIM ET AL.	
	Examiner Robert R. Raevis	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10-14 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10-14,18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/14/08, 3/20/08</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed 2-1-07 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

Para 16.1 is new matter to the extent of “inversely related”.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claims 8,10-14,18-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 11, where is there support for the “inversely **proportional**” (highlighting added) relationship? (Note: $Y=1/X$ is an indication of an inversely **proportional** relationship or Y to X. Applicant does not have support for that relationship.) There is no support for any proportionality as claimed. Where is there any proportional teaching in the argued Para 17? Para 17 provides for only two points that may or may not be proportionally related.

As to claim 11, where is there support for the “inversely” relationship? Presently, Para 17 simply says that when the predetermined number of turns is high, that the pressure is then low; and that when the predetermined number of turns is low, that the pressure is high. That does not provide for an inverse relationship. All that states is that at some predetermined number of rotations, that the pressure changes from low to high. There is no support for any inverse relationship. There is only support for two different groups (one above, the other below the predetermined number), but no relationship between the points within either of the two groups.

As to **REMARKS**, please consider the following:

As to p. 8, first paragraph; Applicant's argued “one meaning” (italics added) seemingly suggests that there is in fact another meaning. However, Applicant does not provide that other meaning, and then contradicts himself by going on to state that he “intended” to show the numerical relation. Applicant's comments do satisfactorily address the new matter issue. Please delete claim 11.

As to claim 8, where is there support for “determined to be deficient if a jitter value measured from the scratch is over 10%” (last two lines of claim 8)? Please note that the single horizontal dashed line in Figure 6 does not seem related to a threshold of failure. That is especially so as the two solid circle points above the dashed (fail?) line are not tagged “Fail” as is done for the two triangle points also above the dashed (fail?) line, and one point below the dashed (fail?) line is tagged “Fail”. That single dashed line

is just there, with both “Fail” and non-fail points both above and below the dashed line, which line is allegedly associated with a threshold of failure (or endurance, if you will). In that instance, the dashed line does not provide for an indication of failure in Figure 6. In fact, there are points both above and below the 10% line that are indicated as “Fail” where the points are obtained from 5 rotations or less, once again indicative that a jitter value of 10% is less than helpful in determining endurance. If endurance is (somehow) a function of the 10% jitter line, why are there indications of failure on both sides of that line, and also indications of non-failure on both sides of that same line? How is endurance a function of jitter? The originally filed graph does not support such assertion.

As to **REMARKS**, please consider the following:

As to p. 6, last paragraph; the three (somewhat) vertical dashed lines in Figure 6 seem to point to three points (circle/rectangle, triangle pointing down, triangle pointing up), indicating that each of those points suggest FAIL *at those points*. There is no indication that the three “FAIL” terms refer to what is required to achieve over 20% jitter.

As to p. 6, last paragraph; isn’t “at 0 turns” (line 4 from last) inconsistent with “in less than one turn” (last two lines)?

As to p. 7, second paragraph; the two “non-fail points above the horizontal dotted line” have been determined to be deficient as the “jitter value measured from the scratch is over 10%” (last three lines of claim 8). Doesn’t this mean that the points are

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indicative of having failed ("Fail", Figure 6)? Undersigned does grasp the substance of the second paragraph (of p. 7), but as originally filed the disclosure simply provides for (1) a horizontally positioned, dashed line at 10% jitter, and (2) the term "Fail" positioned at three points of data. Based on that alone, it is not agreed that one of ordinary skill would be able to draw support for the presented "false-positive and a false-negative" (lines 7-8 of p. 7) scenario. Possibly, some of the problem here is that the claim calls for determining ("determined", line 3 from last of claim 8) that the disc is deficient, while the argument seems to suggest that the discs are really deemed to be deficient. (In that regard, note that the two dark circles above the dashed line in Figure are *not* labeled/tagged "Fail".)

As to claims 18-21, these claims are new matter as they suggest that they are carried out in addition to the steps of claim 8 for "determining deficiency" (line 1 of claim 8). Contrast this with Para 39 of the originally filed specification, which expressly states that the step (or test, if you will) of claims 18-21 are "Apart from the endurance test" (italics added), and that the step (or test, if you will) of claims 18-21 is to "optionally" test the disc.

Claims 18-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 18, "symbol error rate" is undefined. *How is this used to determine efficiency if jitter value is over 10%, as called for in base claim 8? In fact, how is the rate defined, how is it determined/ measured, and how is it used to determine deficiency?*

As to claim 19, "bit error rate" is undefined. *How is this used to determine efficiency if jitter value is over 10%, as called for in base claim 8? In fact, how is the rate defined, how is it determined/measured, and how is it used to determine deficiency?*

As to claim 20, "servo error signal" is undefined. *How is this used to determine efficiency if jitter value is over 10%, as called for in base claim 8? In fact, how is the rate defined, how is it determined/ measured, and how is it used to determine deficiency?*

As to claim 21, "tracking error signal" is undefined. *How is this used to determine efficiency if jitter value is over 10%, as called for in base claim 8? In fact, how is the tracking error signal defined, how is it determined/measured, and how is it used to determine deficiency?*

As to **REMARKS**, please consider the following:

As to p. 8, last paragraph; the Undersigned acknowledges that the quoted passages are on Para 39 of the written specification. What any one of those quoted passages physically means, and what any one has to do with a method for determining deficiency of an optical disc in a scratch test remains undefined/unexplained. How is one of ordinary skill to know? The Undersigned is not interested in speculating, and then searching. It would be more efficient if Applicant would simply provide an explanation? Please delete claims 18-21.

Claims 8,10-14,18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al.

As to claim 8, Hayashida et al teach (Para 91) a method to test endurance of an optical disc, including: placing the disc on a turntable; rotating the turntable and disc; applying pressure to the disc using a scratching unit (abrasive wheels) while the disc rotates a number of turns, so as to scratch the surface of the disc; and ascertaining the abrasion resistance of the sample, said resistance indicative of endurance. Force applied to the disc from above employs a pressure that is applied in the vertical direction. Jitter less than 10% is in the "satisfactory range" (Para 154).

Hayashida does not refer to "up to five" rotation turns.

As to claim 8, it would have been obvious to employ up to five rotation turns as TABLE 3 illustrates use of 5 abrasion cycles, while relating the cycles to the “rotating the turntable” (Para 91), suggestive of turning the specimen of interest 5 rotations during testing.

Hayashida refers (Para 91) to a range of cycles under a range of loads, but does not base one (loads) on the other (cycles).

As to claim 10, it would have been obvious to apply a reduced load for a greater number of cycles as it would be desirable to assure that the wheels do not fully pass through the disc of interested, to thus permit for a measurement of a parameter (i.e. the change of thickness” (Para 94)) that's indicative of abrasion resistance.

As to claim 11, one of ordinary skill would be inclined to try a greater force (i.e. double) and reduced number of turns (by half) to produce a test that may be completed over a shorter time, necessarily employing a proportional relation.

As to claim 12,13, it would have been obvious to employ a non-rotating test piece (in place of a wheel) in Hayashida as Hayashida teaches (Para 90,92) that steel wool may effectively permit for abrasion testing of a rotating body. Such a test piece must provide for a sufficient force/area ration to provide for a measure of abrasion. The pressure provided in Applicant's claim 12 is within the range of sufficient pressures, especially as Nakagawa's test piece is non-rotating, just like Applicant's.

As to claim 14, Hayashida suggests (Para 94) depth measurement as a means to evaluate abrasion resistance. In addition, one of ordinary skill would provide for

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reference values indicative of whether resistance for a particular disc is acceptable.

The threshold value provided in Applicant's claim 14 seems to be within one of ordinary skill.

As to claims 18-21, it would have been obvious to employ these particular tests for endurance only because Applicant has expressed that they are "well-known in the art" (line 3 from bottom of p. 8 of REMARKS) in the field related to "test the function of the optical disc" (Para 39 of written specification), especially as it is known to test an item on a production line to assure that the line is operating properly.

As to **REMARKS**, please consider the following:

As to p. 10, last paragraph; Table 3 specifically relates 5 abrasion cycles to sample No. 2 and sample No. 3.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 5:30am to 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Robert R. Raevis/

Primary Examiner, Art Unit 2856